[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0630; Product Identifier 2017-NM-058-AD; Amendment 39-19173; AD 2018-02-20]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes. This AD was prompted by reports of corrosion in the aft fuselage. This AD requires a one-time review of the operator's maintenance procedures, repetitive detailed internal and external inspections for corrosion or cracking, and applicable on-condition actions. This AD also includes an optional terminating action for the inspections. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone: 562-797-1717; Internet: https://www.myboeingfleet.com. You may view this service

information at the FAA, Transport Standards Branch, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0630.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0630; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6412; fax: 425-917-6590; email: eric.lin@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes. The NPRM published in the Federal Register on July 14, 2017 (82 FR 32507). The NPRM was prompted by reports of corrosion in the aft fuselage. The NPRM proposed to require a one-time review of the operator's maintenance procedures, repetitive detailed internal and external inspections for corrosion or cracking, and applicable on-condition actions. The NPRM also included an optional terminating action for the inspections.

We are issuing this AD to detect and correct untreated vacuum waste system spills or leaks, which could cause corrosion of the airplane structure, which could lead to fatigue cracks, and could ultimately result in rapid decompression and loss of structural integrity.

Comments

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Support for the NPRM

Boeing expressed its support for the NPRM.

Request to Extend the Inspection Compliance Time

Cathay Pacific expressed concern that it would not be able to demonstrate that it has performed an acceptable records review, which is required to demonstrate that all prior vacuum waste system spills or leaks were cleaned and neutralized using the acceptable procedure. Cathay Pacific noted that some airplanes in its fleet have been in service for more than 20 years, so an older record could easily be missed when doing this review. Cathay Pacific stated that because of this concern, it has opted to treat all airplanes as having inadequate records and perform inspections on them. Cathay Pacific stated that the applicable inspection compliance times do not allow waiting for the next scheduled maintenance check, leading to additional downtime.

We infer that Cathay Pacific is requesting that we extend the compliance time for the initial and repetitive inspections. We disagree with the commenter's request. We have determined that the compliance times specified in this AD are necessary to address the identified unsafe condition. However, under the provisions of paragraph (j) of this AD, we will consider requests for approval of an alternative method of compliance (AMOC), including extension of the compliance times, if sufficient data is submitted to substantiate

that a different compliance time will provide an acceptable level of safety. We have not changed this AD in this regard.

Request to Extend the Compliance Times for Certain Airplanes

United Airlines (UAL) and Air France (AF) requested that we revise the compliance times for airplanes on which certain inspections have been done. UAL requested that the compliance time be extended for airplanes on which corrosion prevention and control program (CPCP) inspections have already been done. UAL noted that many operators have proven corrosion control programs that do not have corrosion findings greater than CPCP level 1, which mitigates the corrosion risk factor. UAL suggested that the initial inspection compliance time be extended for airplanes on which maintenance records show that no corrosion findings greater than CPCP level 1 have occurred in the inspection area in the 10 years prior to the effective date of the AD.

AF requested that the compliance times be extended for airplanes on which maintenance planning document (MPD) inspections have been done. AF noted that existing MPD items require general visual inspections of certain areas below the aft and bulk cargo compartment floor panels. AF stated that because the majority of its fleet has already been inspected under the MPD items, the compliance times in the NPRM are too restrictive. AF noted that the initial compliance times cannot be accommodated into its 777 C or heavy checks interval. AF suggested compliance times based on the number of days since the date of issuance of the original airworthiness certificate or date of issuance of the original export certificate of airworthiness instead of days after the effective date of the AD as specified in the proposed AD.

We disagree with the commenters' requests to extend the compliance times. The CPCP has three different levels of corrosion damage, as defined within the MPD, based on the severity and frequency of corrosion findings and requires operators to adjust their individual programs to limit corrosion findings to level 1 if they have level 2 or higher

findings. However, operators have reported finding recurring corrosion damage in-between scheduled CPCP or MPD inspections that was due to untreated vacuum waste system residue. Additionally, we have reviewed the existing MPD inspections and have determined that the MPD inspections do not repeat at adequate intervals to address the unsafe condition. The determinations of the unsafe condition, mitigating actions, and compliance times were coordinated with the manufacturer. Under the provisions of paragraph (j) of this AD, we will consider requests for approval of AMOCs, including extensions of the compliance times, if sufficient data, such as an operator's individual CPCP and practices for treating vacuum waste system residue, is submitted to substantiate that a different compliance time will provide an acceptable level of safety. We have not changed this AD in this regard.

Request to Allow the Use of a Different Sodium Bicarbonate Compound

Japan Airlines (JAL) and AF requested that we revise the NPRM to allow the use of a different sodium bicarbonate compound than the ASTM D928 specified in Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017. JAL noted it had difficulty finding the specified sodium bicarbonate compound, but could find an equivalent product. AF noted that is has a corresponding product.

We partially agree with the commenters' request. We agree that an equivalent sodium bicarbonate compound is acceptable. Boeing has issued Boeing Information Notice 777-53A0083 IN 01, dated September 1, 2017, to clarify that a commercially available sodium bicarbonate compound is acceptable for compliance. However, we do not agree to revise this AD because it does not require the use of ASTM D928 sodium bicarbonate compound. As indicated in the Accomplishment Instructions and Figure 2 of Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, sodium bicarbonate must be used, but a specific compound type is not identified.

Request to Define a Neutral pH

American Airlines (AAL) requested that we revise the NPRM to define a neutral pH as one that has a value between 6.5 and 8.5, to account for natural variations in tap water. AAL stated that the NPRM does not define a tolerance from the common definition of neutral pH, which is a pH of 7.

We disagree with the commenter's request. Paragraph 3.A., General Information, Note 19, of Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, defines neutralization as making the vacuum waste system spill or leak contents non-acidic or non-corrosive. No specific pH value is defined in the service information or required by this AD. Therefore, operators can include tolerances for a neutral pH. One way for operators to account for pH variances of their local clean water supply is to measure the pH level of their clean water supply in order to establish a baseline pH level, that can then be used to compare against samples taken from the fuselage structure. We have not changed this AD in this regard.

Request to Define a Standard Litmus Paper

AAL and Cathay Pacific requested that we revise the NPRM to define a standard part number for the litmus paper to use in determining if the acid is neutralized. AAL noted that the NPRM does not specify a resolution or range for the litmus paper. Cathay Pacific claimed that because Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, does not list a specific litmus paper, the instruction to "use litmus paper" is ambiguous and operators would not be able to determine if an acceptable litmus paper is used.

We disagree with the commenters' request. Litmus paper is a commonly available tool. Accomplishing the cleaning and neutralization steps in Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, does not specify the use of a specific brand or type of litmus paper. We have not changed this AD in this regard.

Request to Define the Location and Quantity of Litmus Paper Testing Points

AAL and Cathay Pacific requested that we revise the NPRM to define the locations where litmus paper testing must be done, as well as the number of samples that must be taken. AAL pointed out that the structural features that must be chemically neutralized are specified in Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, while the litmus paper testing spots are not. Cathay Pacific suggested that Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, implies that operators should do litmus paper testing on all the structural features in the inspection and neutralization area, but stated it does not believe this is the intent.

We agree to provide clarification on the number and location of litmus paper testing spots and confirm that paragraph (i) of this AD does not require testing with litmus paper at all structural features in the neutralization area. However, we do not agree that it is necessary to provide a specific number of samples or testing locations. The objective of the litmus paper testing is to verify that there are no remaining acidic or corrosive substances on the structure. The appropriate level of testing may vary between airplanes depending on factors such as maintenance records, previous spills or leaks, or repairs that obstruct access. Samples should be tested at enough locations within the affected area of the structure for the operator to determine that there are no residual acidic or corrosive contents on primary structural elements in the inspection area, including any locations where the sodium bicarbonate solution visibly reacted when applied, which indicates the presence of acidic or corrosive substances, and any locations where there are signs of corrosion damage. We have not changed this AD in this regard.

Request to Allow the Use of Alternative Corrosion Inhibiting Compounds

AAL requested that we allow the use of alternative corrosion inhibiting compounds (which are applied to the cleaned and neutralized areas as part of the required restoration) as specified in Boeing Aircraft Maintenance Manual (AMM) Task

51-05-01-210-803. AAL noted that Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, specifies BMS3-29 compound and does not allow the use of alternative compounds.

We agree with the commenter's request. Boeing AMM Task 51-05-01-210-803 specifies the application of a single coat of water displacing/anti-corrosion compound BMS3-29 or BMS3-35 at a minimum, with an option to layer different compounds in areas with high potential for severe corrosion. We have added paragraph (h)(3) of this AD to specify acceptable alternative corrosion inhibiting compounds.

Request to Update the Costs of Compliance

Cathay Pacific requested that we update the work-hours estimate for cleaning and neutralization in the NPRM. Cathay Pacific stated that the area to be neutralized covers 13 frames and 15 stringers, so it will require more work-hours to complete this task.

We disagree with the commenter's request. The work-hours estimate is determined by Boeing and provided for informational and planning purposes only. In addition, Cathay Pacific did not provide any alternative estimates for the work-hours. We have not changed this AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017. The service information describes procedures for a one-time review of the operator's maintenance procedures, repetitive detailed internal and external inspections for corrosion or cracking, cleaning and neutralization of the internal inspection area (an optional terminating action), and applicable on-condition actions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 161 airplanes of U.S. registry. The cost to review an operator's maintenance procedures varies depending on the operator's recordkeeping system and fleet size so we did not include a specific estimate for that action. We estimate the following costs to comply with the remaining actions of this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	75 work-hours X $85 per hour = $6,375 per inspection cycle	$0	$6,375 per inspection cycle	$1,026,375 per inspection cycle

Estimated costs for optional terminating actions

Action	Labor cost	Parts cost	Cost per product
Cleaning and neutralization	30 work-hours X $85 per hour = $2,550	$0	$2,550

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2018-02-20 The Boeing Company: Amendment 39-19173; Docket No. FAA-2017-0630; Product Identifier 2017-NM-058-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of corrosion in the aft fuselage. We are issuing this AD to detect and correct untreated vacuum waste system spills or leaks, which could cause corrosion of the airplane structure, which could lead to fatigue cracks, and could ultimately result in rapid decompression and loss of structural integrity.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as required by paragraphs (h)(1) through (h)(3) of this AD: At the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, do all applicable actions identified as "RC" (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017.

(h) Exceptions to Service Information Specifications

(1) Where Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, uses the phrase "after the original issue date of this service bulletin," for purposes of determining compliance with the requirements of this AD, the phrase "after the effective date of this AD" must be used.

(2) Where Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, specifies contacting Boeing, and specifies that action as RC: This AD requires using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(3) Where Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, specifies to apply corrosion inhibiting compound BMS3-29 to the cleaned and neutralized area, and specifies that action as RC: This AD allows operators to apply BMS3-29, BMS3-35, or a base coat of BMS3-29 or BMS3-35 with a top coat of BMS3-26.

(i) Optional Terminating Action for Repetitive Inspections

Accomplishment of "PART 5: CLEANING AND NEUTRALIZATION," as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017, terminates the repetitive inspections required by paragraph (g) of this AD.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing

Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraphs (h)(2) and (h)(3) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(4)(i) and (j)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(k) Related Information

For more information about this AD, contact Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6412; fax: 425-917-6590; email: eric.lin@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Service Bulletin 777-53A0083, dated April 20, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone: 562-797-1717; Internet: https://www.myboeingfleet.com.

(4) You may view this service information at the FAA, Transport Standards Branch, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Renton, Washington, on January 19, 2018.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.
[FR Doc. 2018-01807 Filed: 2/8/2018 8:45 am; Publication Date: 2/9/2018]